CLAIMS

What is claimed is:

1. An instrumentation system, comprising:

a set of instruments each having a clock and an event buffer for periodically logging a data record each data record comprising a set of measurement data and a time-stamp obtained from the corresponding clock;

means for maintaining a synchronized time in the clocks;

means for stopping the logging in the event buffers in response to an event of interest;

means for correlating the data records in the event buffers in response to a time-stamp associated with the event of interest.

2. The instrumentation system of claim 1, wherein the event buffers are circular buffers.

3. The instrumentation system of claim 1, wherein each event buffer logs the data records according to a corresponding predetermined sample interval which is derived from the corresponding clock.

4. The instrumentation system of claim 1, wherein the means for stopping the logging in the event buffers includes means for providing an event trigger to the instruments such that each event buffer stops logging in response to the event trigger.

5. The instrumentation system of claim 1, wherein the means for correlating the data records in the event buffers includes means for correlating the data records in response to a time-stamp for the event of interest.

6. The instrumentation system of claim 5, wherein a subset of the instruments include means for obtaining the time-stamp for the event of interest via a communication network.

7. An instrument, comprising:

clock;

event buffer for periodically logging a data record each data record comprising a set of measurement data and a time-stamp obtained from the clock;

means for maintaining a synchronized time in the clock;

means for stopping the logging in the event buffer in response to an event of interest;

means for correlating the data records in the event buffer in response to a time-stamp associated with the event of interest.

8. The instrument of claim 7, wherein the event buffer is a circular buffer.

9. The instrument of claim 7, wherein the event buffer logs the data records according to a predetermined sample interval which is derived from the clock.

10. The instrument of claim 7, wherein the means for stopping the logging in the event buffer includes means for generating an event trigger such that the event buffer stops logging in response to the event trigger.

11. The instrument of claim 7, wherein the means for correlating the data records in the event buffer includes means for correlating the data records in response to a time-stamp for the event of interest.

12. The instrument of claim 11, further comprising means for obtaining the time-stamp for the event of interest via a communication network.

13. A method for time correlation of measurements in an instrumentation system, comprising the steps of:

providing each of a set of instruments in the instrumentation system with a synchronized time base;

periodically logging a data record each comprising a set of measurement data and a time-stamp obtained using the synchronized time base;

stopping the logging of the data records in response to an event of interest;

correlating the data records in response to a time-stamp associated with the event of interest.

14. The method of claim 13, wherein the step of periodically logging comprises the step of logging a window of data records including a last set of x obtained measurements.

15. The method of claim 13, wherein the step of periodically logging comprises the step of logging the data records according to a corresponding predetermined sample interval.

16. The method of claim 13, wherein the step of correlating the data records includes the step of correlating the data records in response to a time-stamp for the event of interest.

17. The method of claim 16, further comprising the step of obtaining the time-stamp for the event of interest via a communication network.